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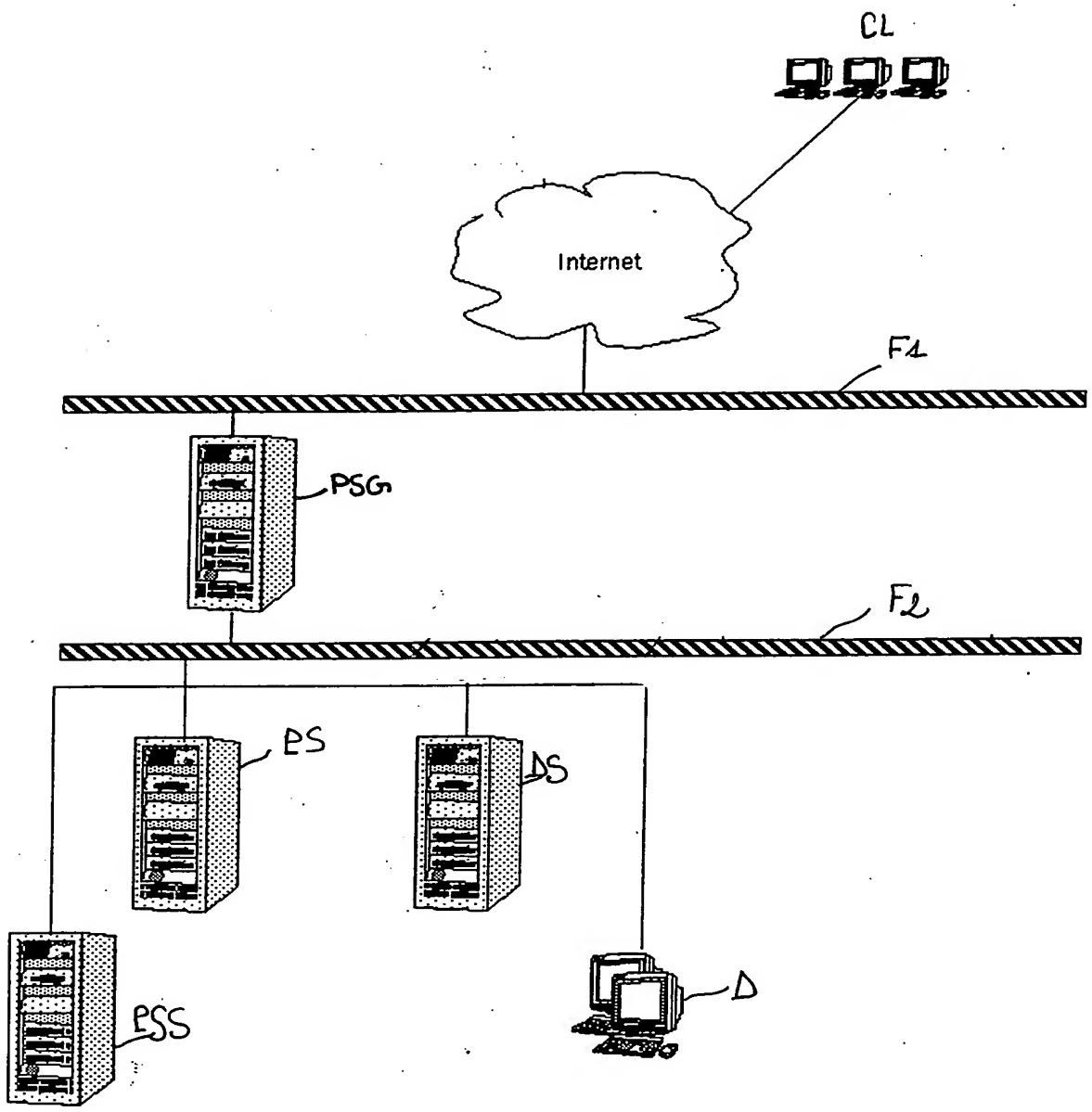


FIG 1

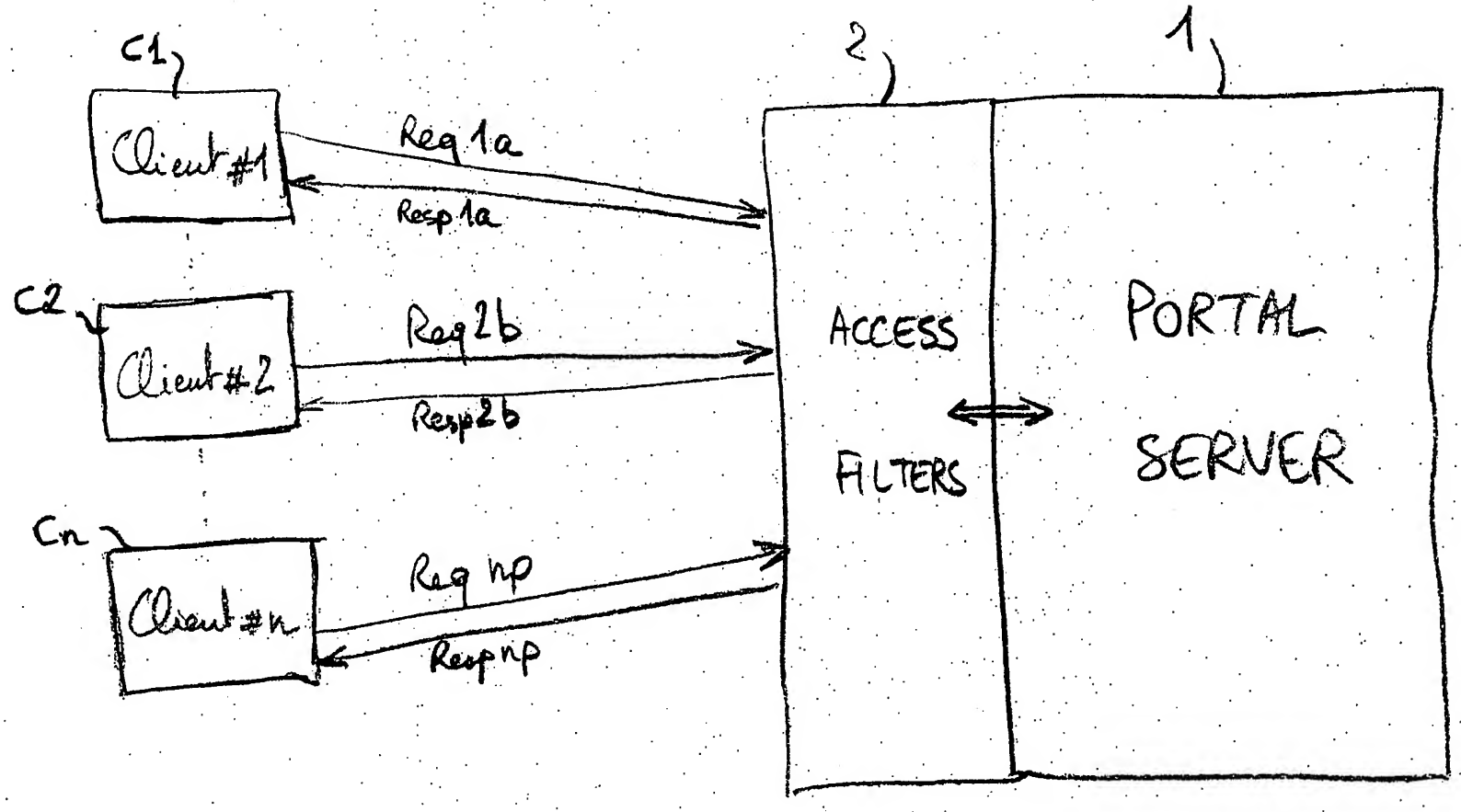

C1
Client #1
Req 1a
Resp 1a
C2
Client #2
Req 2b
Resp 2b
Cn
Client #n
Req np
Resp np
2
1
ACCESS
FILTERS
PORTAL
SERVER

FIG. 2

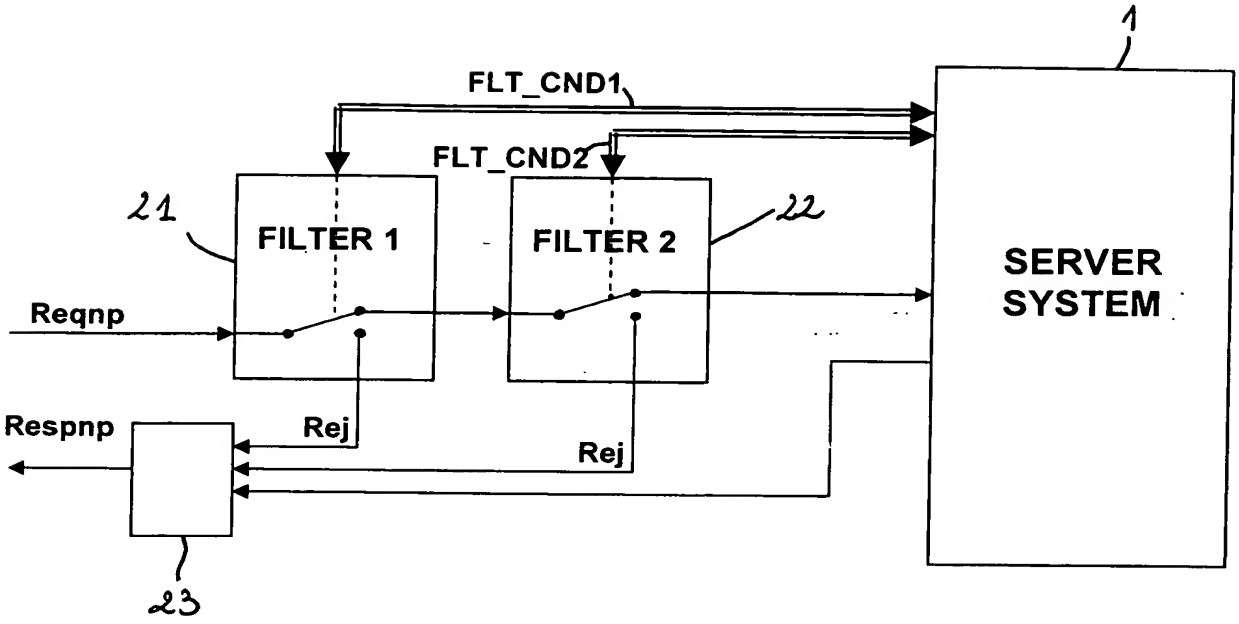

1
FLT_CND1
FLT_CND2
21
FILTER 1
FILTER 2
22
SERVER SYSTEM
Reqnp
Respnp
Rej
Rej
23

FIG 3

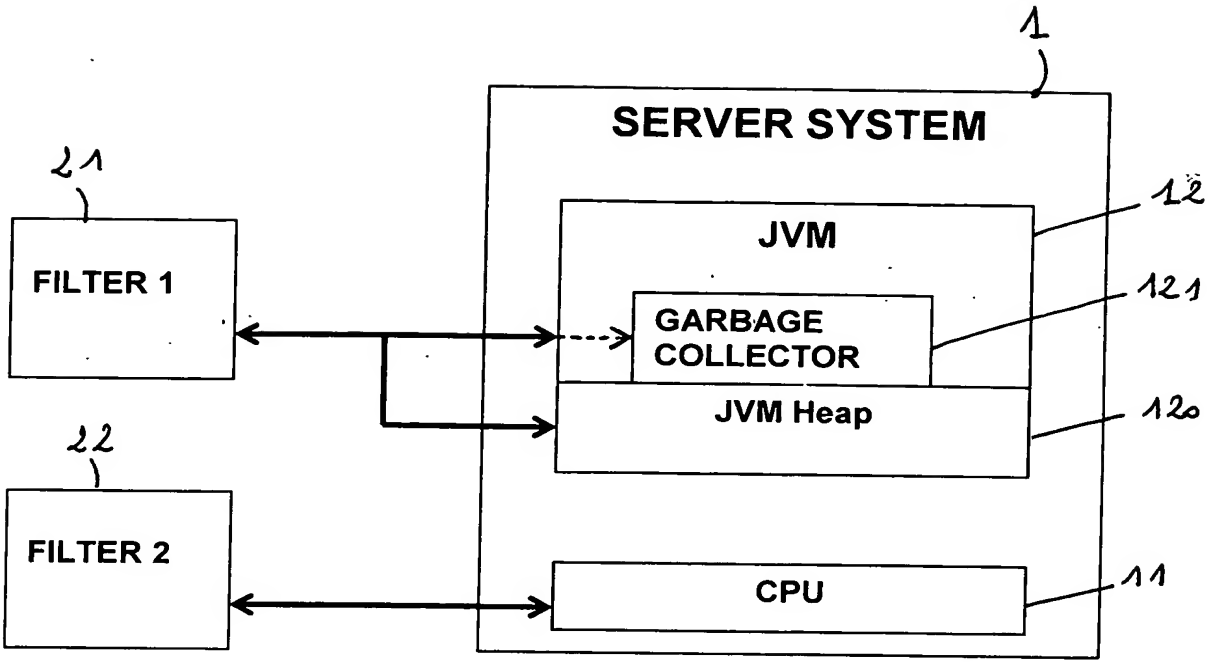

1
SERVER SYSTEM
21
FILTER 1
12
JVM
121
GARBAGE
COLLECTOR
120
JVM Heap
22
FILTER 2
11
CPU

FIG 4

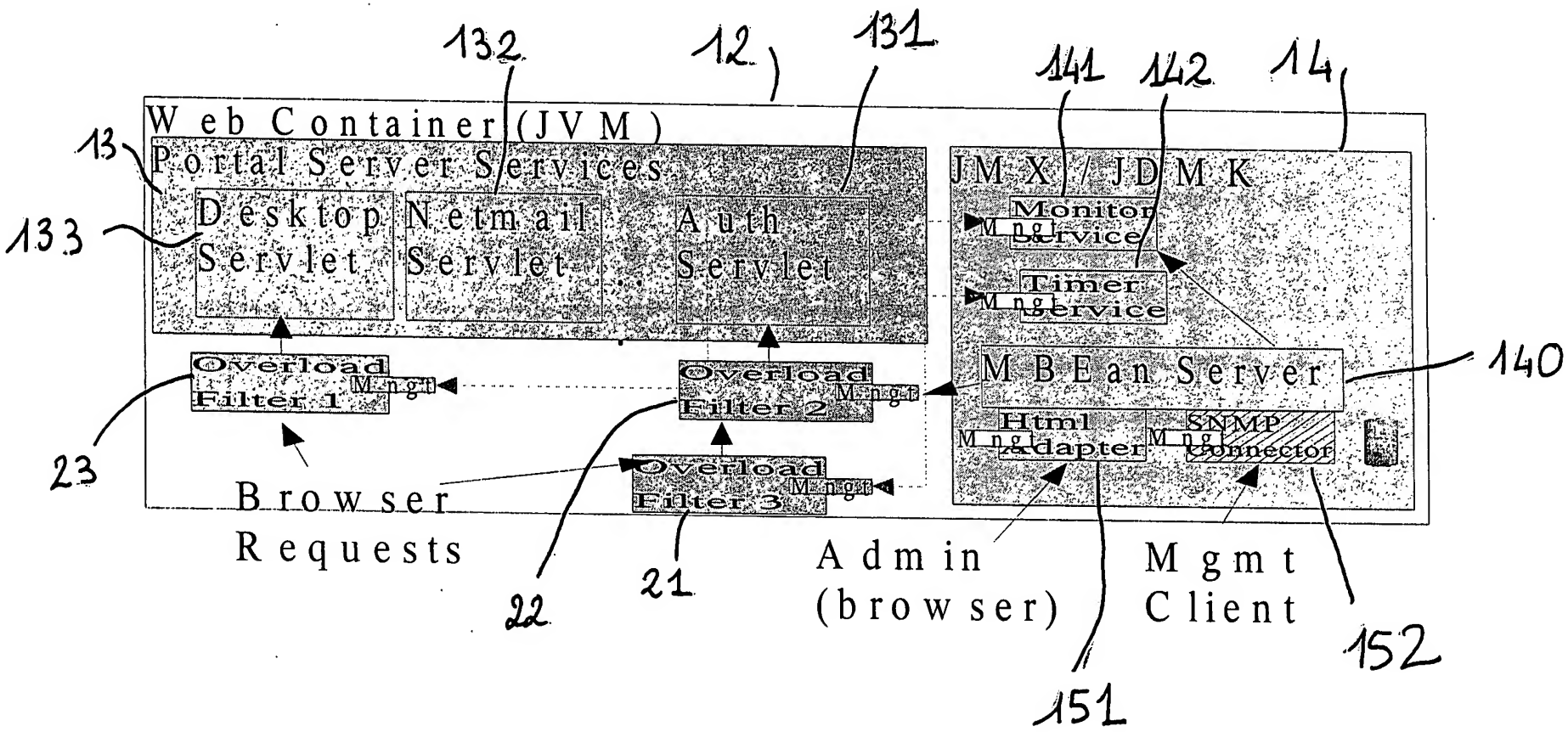

132
12
131
141
142
14
13
133
Web Container (JVM)
Portal Server Services
Desktop Servlet
Netmail Servlet
Auth Servlet
JMX / JDMK
Monitor Mngt Service
Timer Mngt Service
MBean Server
140
Overload Filter 1 Mngt
Overload Filter 2 Mngt
Overload Filter 3 Mngt
Html Adapter Mngt
SNMP Connector Mngt
23
Browser Requests
22
21
Admin (browser)
Mgmt Client
151
152

Figure 5

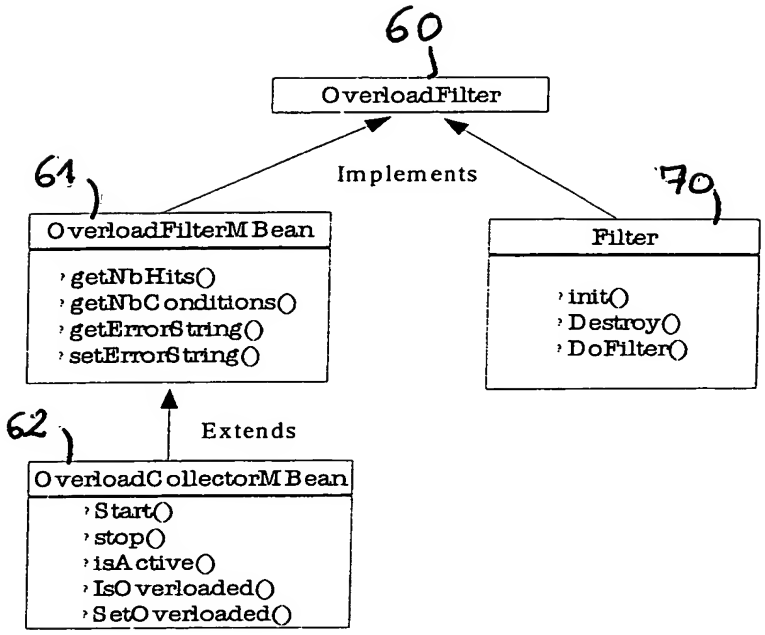


Figure 6

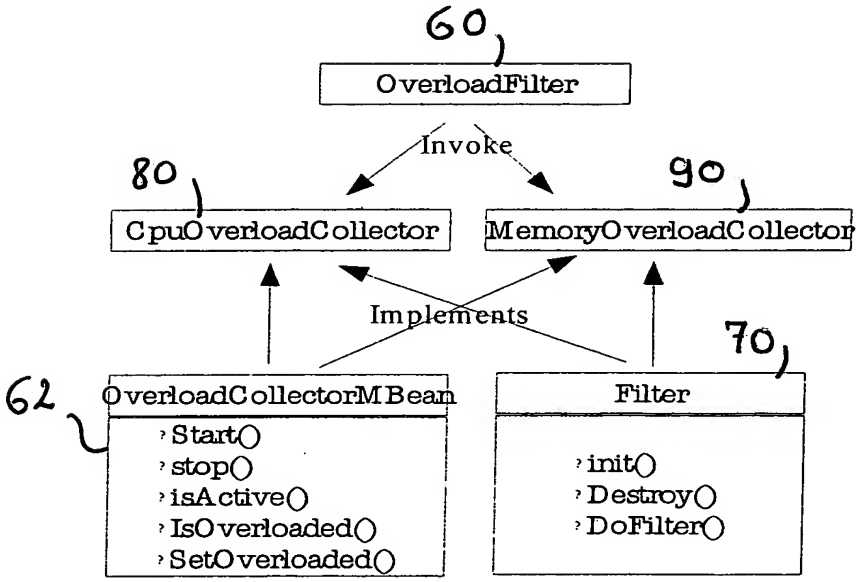


Figure 7

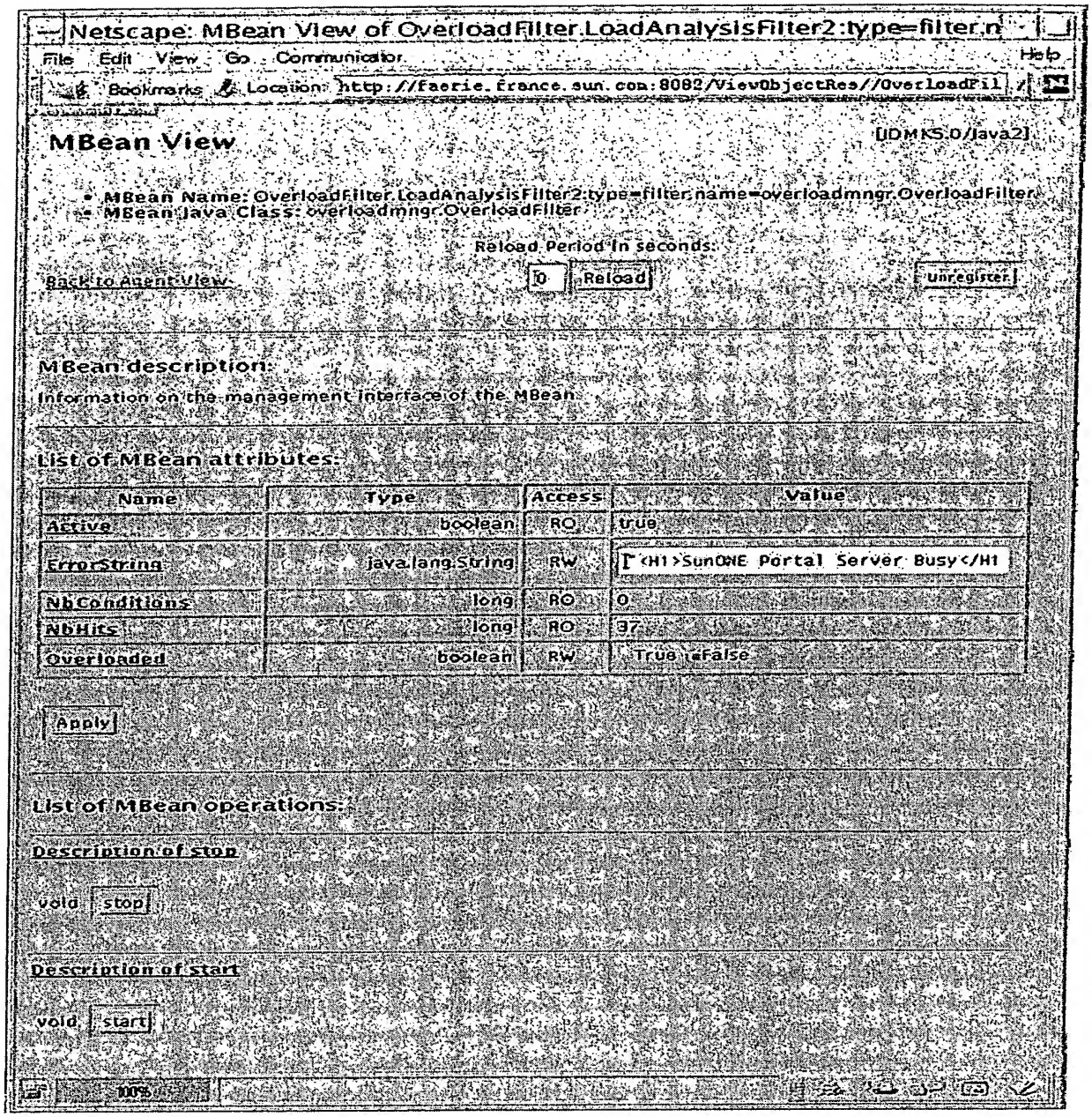

Netscape: MBean View of OverloadFilter.LoadAnalysisFilter2:type=filter,n
File Edit View Go Communicator Help
Bookmarks Location: http://faerie.france.sun.com:8082/ViewObjectRes//OverloadFil
MBean View
[JDMKS5.0/Java2]
MBean Name: OverloadFilter.LoadAnalysisFilter2:type=filter,name=overloadmngr.OverloadFilter
MBean Java Class: overloadmngr.OverloadFilter
Reload Period in seconds:
Back to Agent View
0
Reload
unregister
MBean description:
Information on the management interface of the MBean
List of MBean attributes:
Name
Type
Access
Value
Active
boolean
RO
true
ErrorString
java.lang.String
RW
[<H1>SunONE Portal Server Busy</H1
NbConditions
long
RO
0
NbHits
long
RO
37
Overloaded
boolean
RW
True False
Apply
List of MBean operations:
Description of stop
void
stop
Description of start
void
start
100%

Figure 7A

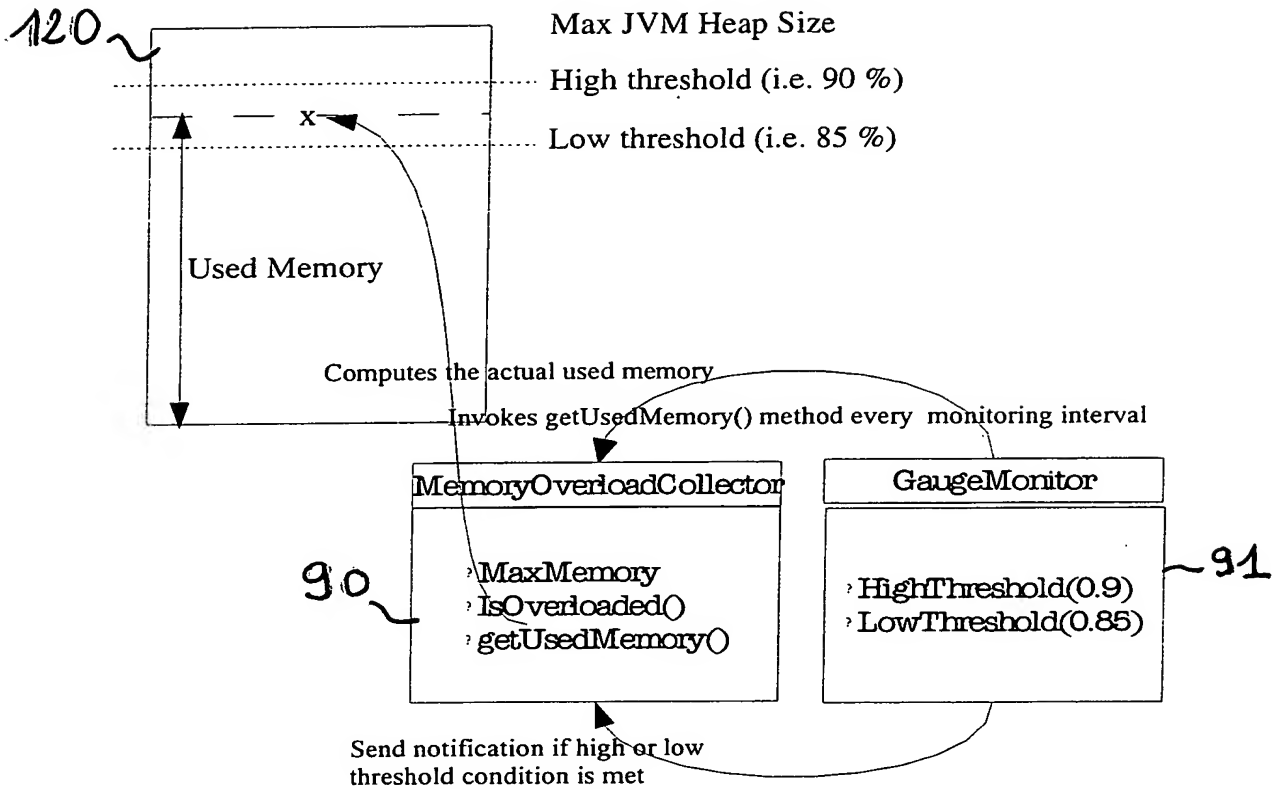

120
Max JVM Heap Size
High threshold (i.e. 90 %)
Low threshold (i.e. 85 %)
Used Memory
Computes the actual used memory
Invokes getUsedMemory() method every monitoring interval
MemoryOverloadCollector
GaugeMonitor
90
91
MaxMemory
IsOverloaded()
getUsedMemory()
HighThreshold(0.9)
LowThreshold(0.85)
Send notification if high or low
threshold condition is met

Figure 8

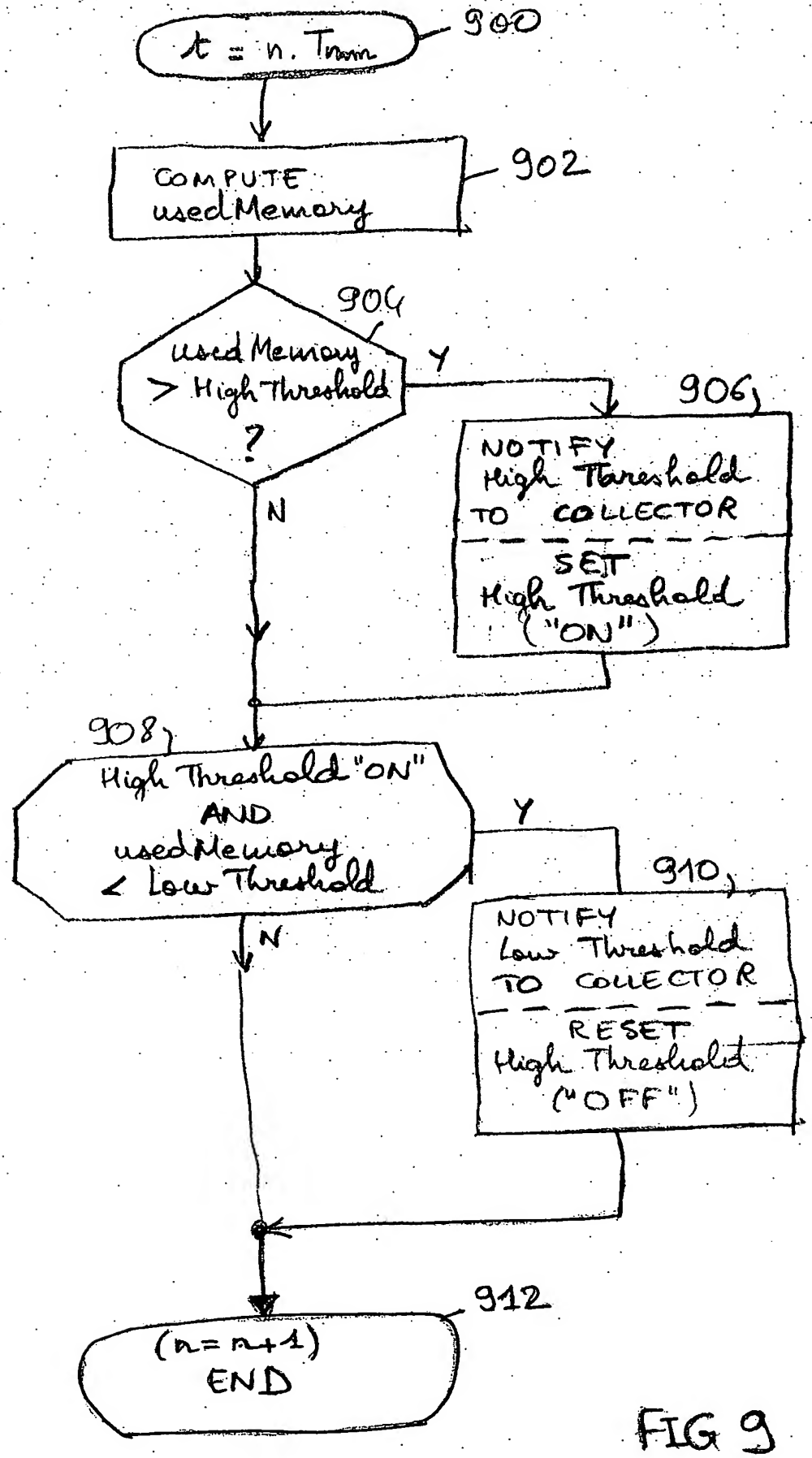

t = n. Tmm
900
COMPUTE usedMemory
902
usedMemory > HighThreshold ?
904
Y
N
NOTIFY HighThreshold TO COLLECTOR
SET HighThreshold ("ON")
906
High Threshold "ON" AND usedMemory < LowThreshold
908
Y
N
NOTIFY LowThreshold TO COLLECTOR
RESET HighThreshold ("OFF")
910
(n=n+1) END
912

FIG 9

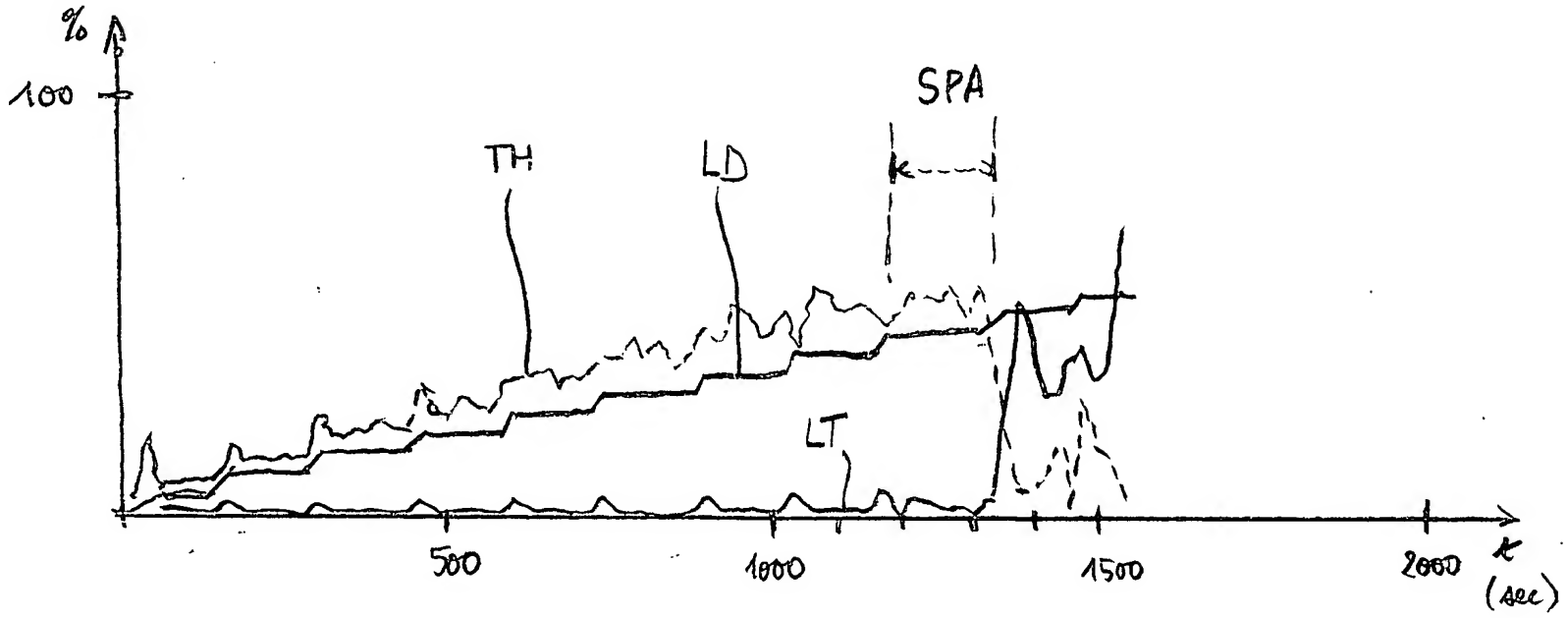


FIG 10

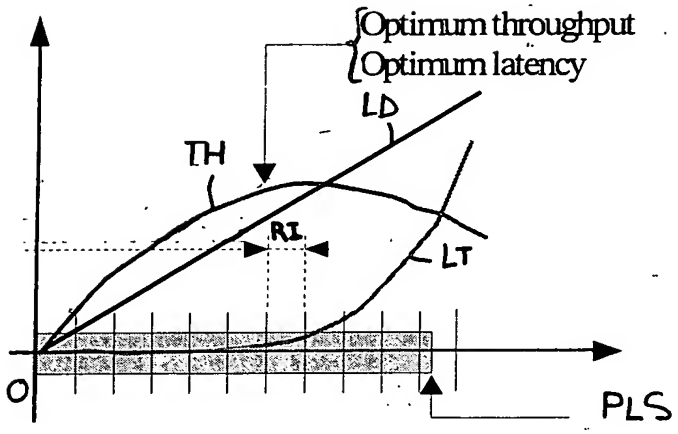
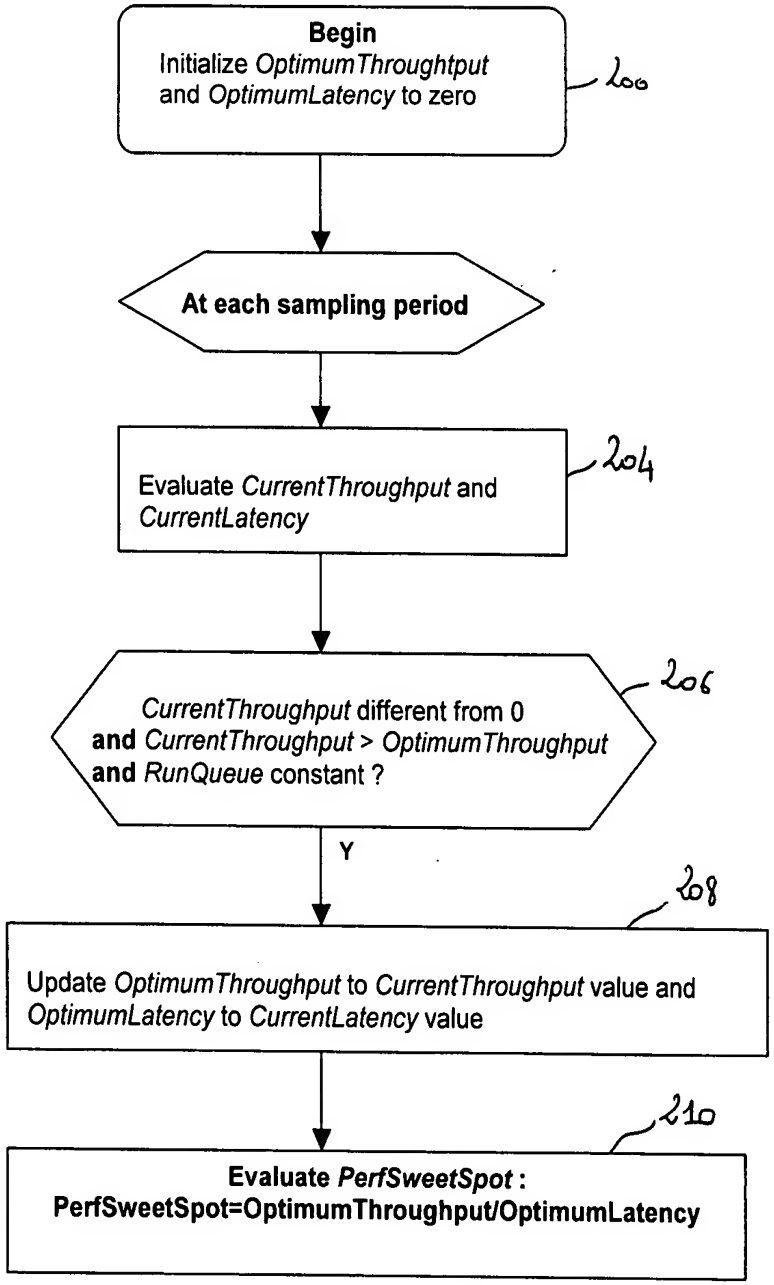


Figure 11


Begin
Initialize OptimumThroughtput and OptimumLatency to zero
200
At each sampling period
Evaluate CurrentThroughput and CurrentLatency
204
CurrentThroughput different from 0 and CurrentThroughput > OptimumThroughput and RunQueue constant ?
206
Y
208
Update OptimumThroughput to CurrentThroughput value and OptimumLatency to CurrentLatency value
210
Evaluate PerfSweetSpot : PerfSweetSpot=OptimumThroughput/OptimumLatency

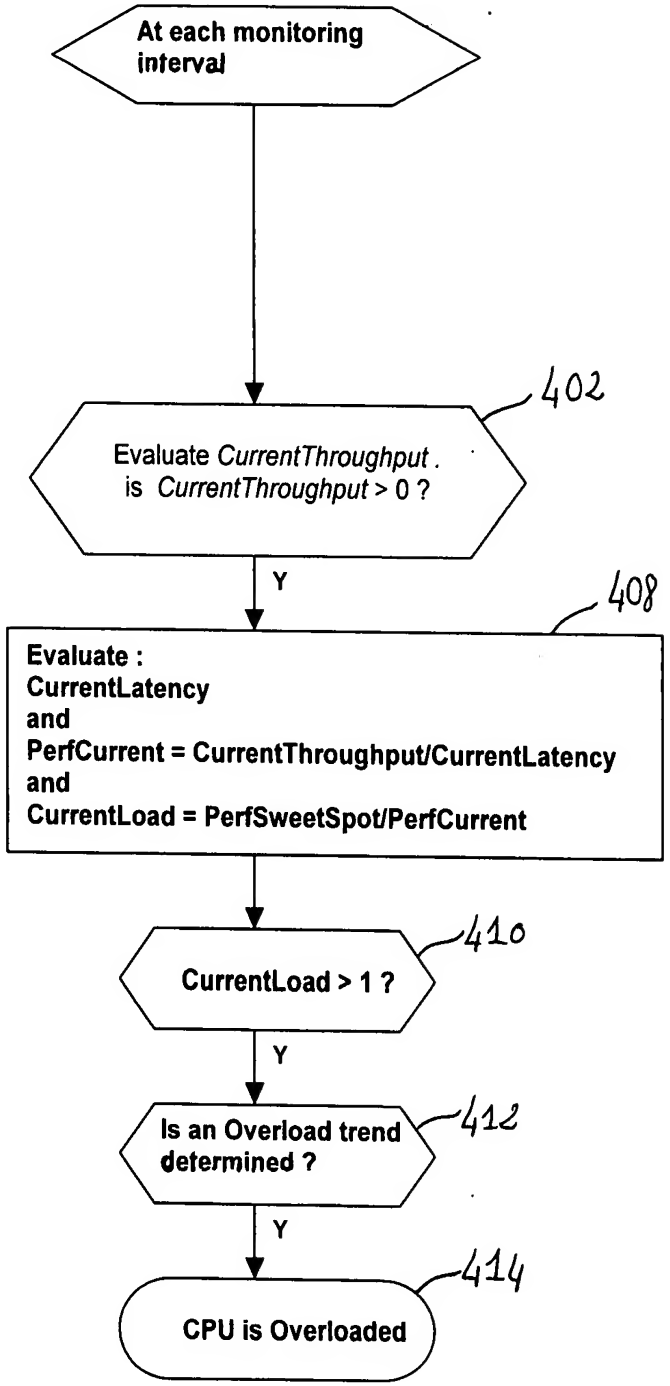

At each monitoring interval
402
Evaluate CurrentThroughput . is CurrentThroughput > 0 ?
Y
408
Evaluate :
CurrentLatency
and
PerfCurrent = CurrentThroughput/CurrentLatency
and
CurrentLoad = PerfSweetSpot/PerfCurrent
410
CurrentLoad > 1 ?
Y
412
Is an Overload trend determined ?
Y
414
CPU is Overloaded

FIG 12

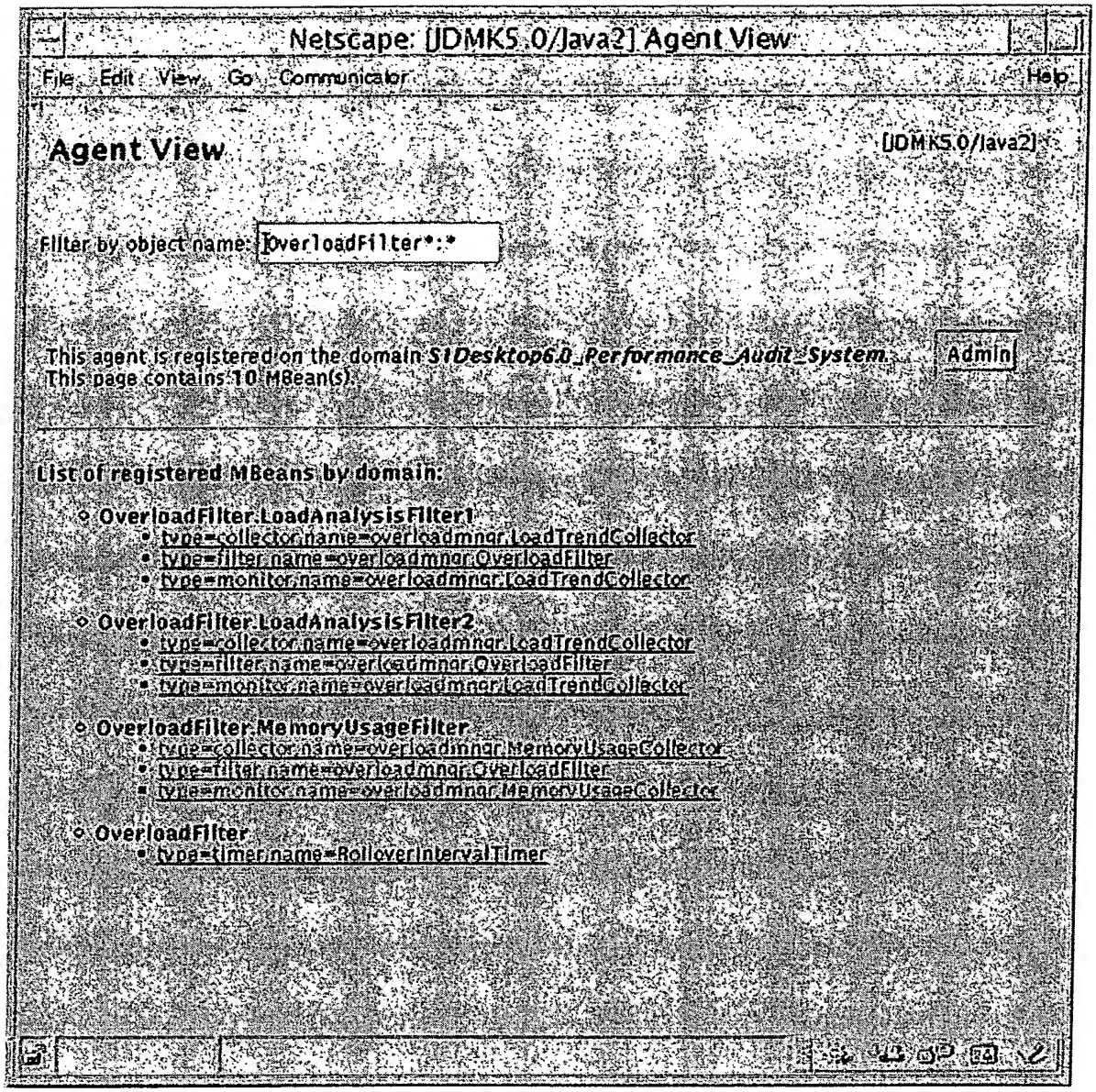

Netscape: [JDMK5.0/Java2] Agent View
File Edit View Go Communicator Help
Agent View
[JDMK5.0/Java2]
Filter by object name: OverloadFilter*:*
This agent is registered on the domain SIDesktop6.0_Performance_Audit_System.
This page contains 10 MBean(s).
Admin
List of registered MBeans by domain:
OverloadFilter:LoadAnalysisFilter1
type=collector,name=overloadmngr.LoadTrendCollector
type=filter,name=overloadmngr.OverloadFilter
type=monitor,name=overloadmngr.LoadTrendCollector
OverloadFilter:LoadAnalysisFilter2
type=collector,name=overloadmngr.LoadTrendCollector
type=filter,name=overloadmngr.OverloadFilter
type=monitor,name=overloadmngr.LoadTrendCollector
OverloadFilter:MemoryUsageFilter
type=collector,name=overloadmngr.MemoryUsageCollector
type=filter,name=overloadmngr.OverloadFilter
type=monitor,name=overloadmngr.MemoryUsageCollector
OverloadFilter
type=timer,name=RolloverIntervalTimer

Figure 13

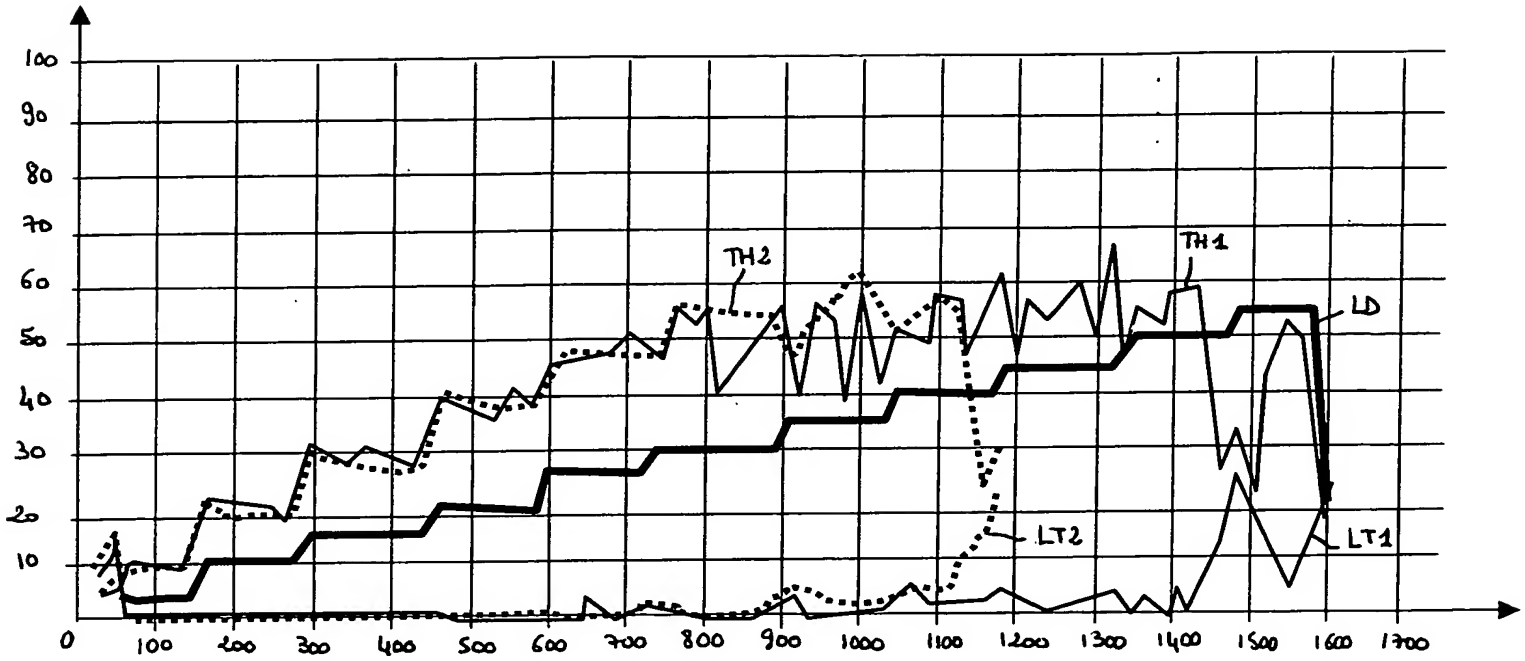

100
90
80
70
60
50
40
30
20
10
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
TH2
TH1
LD
LT2
LT1

FIG 14

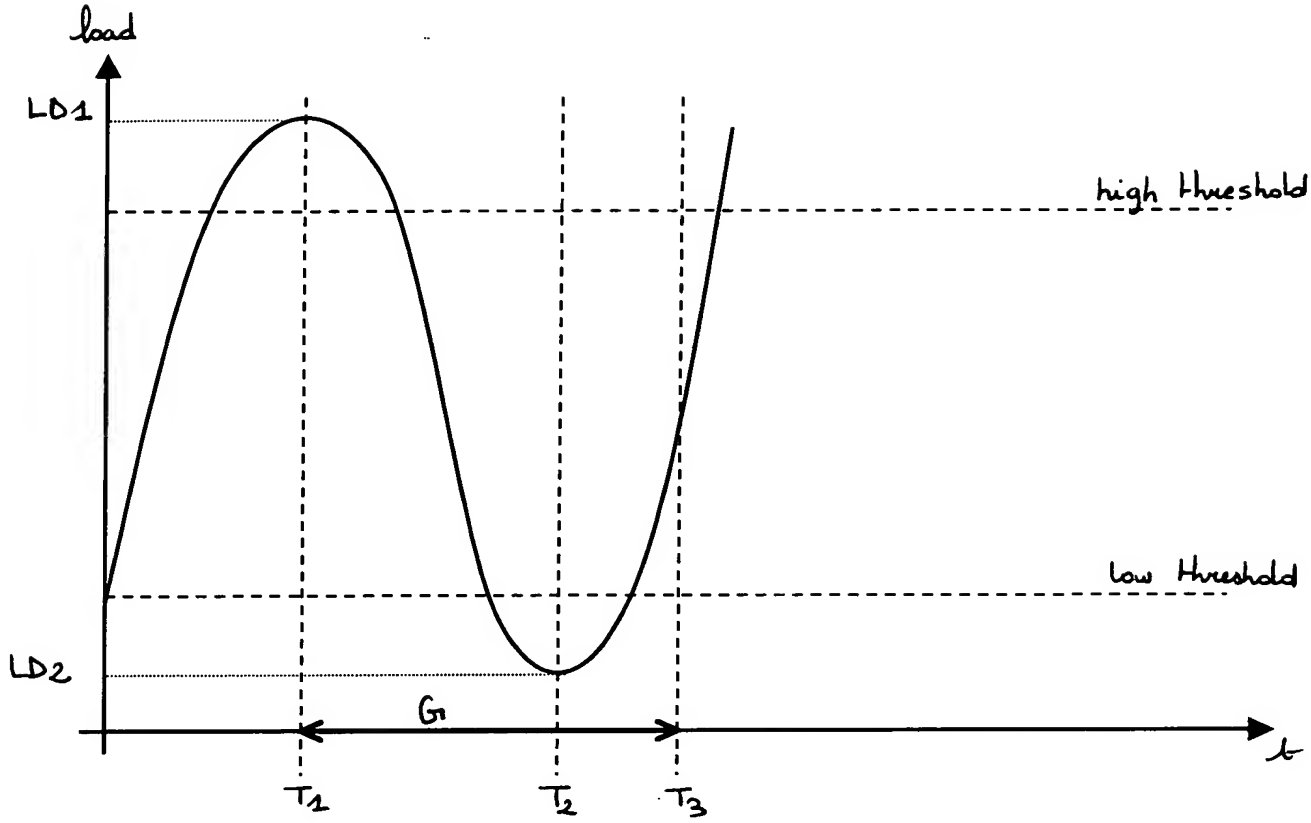


FIG 15A

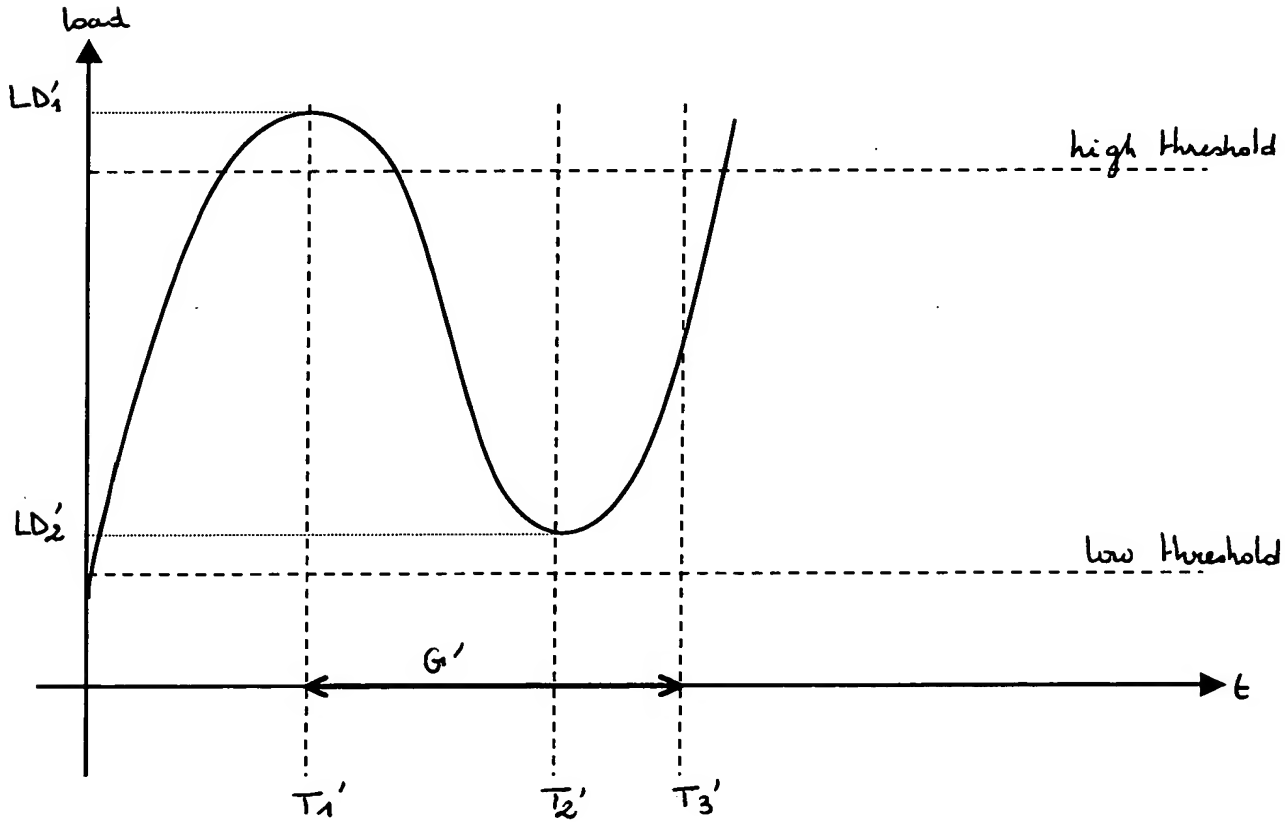


FIG 15B

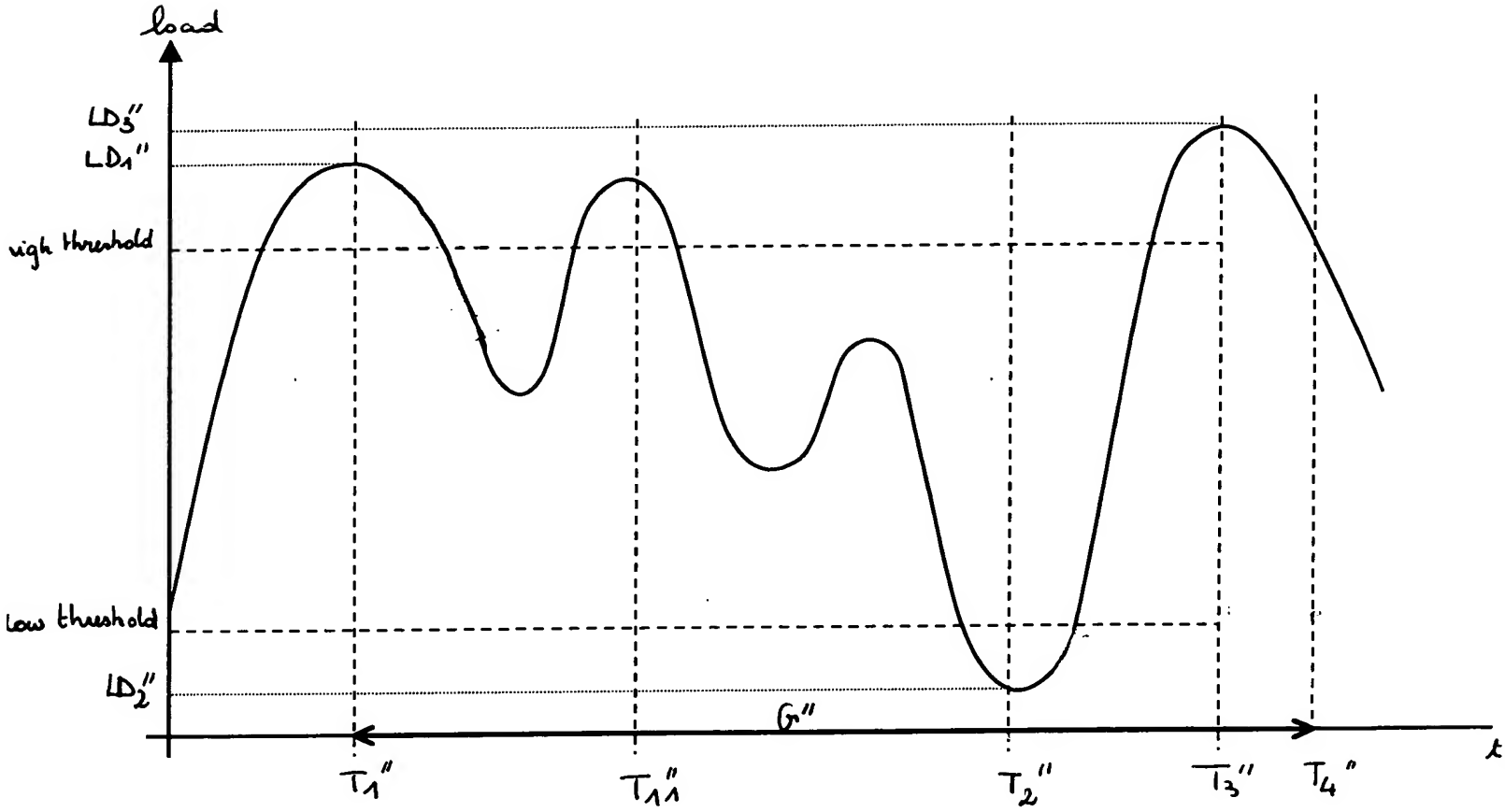

load
LD3"
LD1"
high threshold
low threshold
LD2"
G"
t
T1"
T11"
T2"
T3"
T4"

FIG 15 C